

## APPENDIX 1 – SUMMARY OF APPLICATION METHOD ADJUSTMENT FACTORS AND METHOD USE FRACTIONS

**Table A1 - 1. Application Method Adjustment Factors.**

<b>Fumigation Method<sup>1</sup></b>	<b>AMAF</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam</b>	<b>Dazomet</b>	<b>Na Tetrathio carbonate</b>
Shallow injection w/ high permeability tarp or no tarp- broadcast	61*	64*	74*	not applicable	not applicable	not applicable
Shallow injection w/ low permeability tarp- broadcast	not applicable	44	48	not applicable	not applicable	not applicable
Shallow injection w/ high permeability tarp or no tarp-bed	not applicable	64*	100*	77*	not applicable	not applicable
Shallow injection w/ low permeability tarp- bed	not applicable	64*	100*	not applicable	not applicable	not applicable
Shallow injection w/ water treatments	41	20	not applicable	21	not applicable	not applicable
Shallow injection w/ soil cap	not applicable	not applicable	not applicable	14	not applicable	not applicable
Deep injection w/ high permeability tarp or no tarp- broadcast	41	64*	74*	not applicable	not applicable	not applicable
Deep injection w/ low permeability tarp-broadcast	not applicable	44	48	not applicable	not applicable	not applicable
Deep injection w/ water treatments	27	20	not applicable	not applicable	not applicable	not applicable
Rotovate/rototill	not applicable	not applicable	not applicable	14	17	not applicable
Sprinkler	not applicable	not applicable	not applicable	77*	not applicable	10
Sprinkler w/ water treatments	not applicable	not applicable	not applicable	21	not applicable	not applicable
Flood	not applicable	not applicable	not applicable	77*	not applicable	10
Drip w/ high permeability tarp or no tarp	29	not applicable	not applicable	9	not applicable	10
Drip w/ low permeability tarp	not applicable	15	not applicable	9	not applicable	not applicable
Non-field soil (structural/post-	not applicable	100	100	not applicable	not applicable	not applicable

harvest)						
----------	--	--	--	--	--	--

\* These are considered “high-emission” fumigation methods and are prohibited within the San Joaquin Valley, Southeast Desert, and Ventura NAAs during May-October.

**Table A1 - 2. 1990 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D<sup>2</sup></b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>3</sup></b>	<b>Dazomet<sup>3</sup></b>	<b>Na Tetrathio carbonate<sup>4</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast		42	37			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		42	36	3		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast		16	14			
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill				2	100	
Sprinkler				55		33
Sprinkler w/ water treatments						
Flood				10		33
Drip w/ high permeability tarp or no tarp				10		34
Drip w/ low permeability tarp				5		
Non-field soil (structural/post-harvest)			13			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>Use of 1,3-D was suspended in early 1990.

<sup>3</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>4</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 3. 1990 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D<sup>2</sup></b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>3</sup></b>	<b>Dazomet<sup>3</sup></b>	<b>Na Tetrathio carbonate<sup>4</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast		29	29			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		29	29	8		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				25		
Deep injection w/ high permeability tarp or no tarp-broadcast		42	42			
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill				3	100	
Sprinkler				60		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp				2		34
Drip w/ low permeability tarp				2		
Non-field soil (structural/post-harvest)						

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.<sup>2</sup>Use of 1,3-D was suspended in early 1990.<sup>3</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.<sup>4</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 4. 1990 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D<sup>2</sup></b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>3</sup></b>	<b>Dazomet<sup>3</sup></b>	<b>Na Tetrathio carbonate<sup>4</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast		50	35			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		50	34	10		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				30		33
Sprinkler w/ water treatments						
Flood				50		33
Drip w/ high permeability tarp or no tarp				5		34
Drip w/ low permeability tarp				5		
Non-field soil (structural/post-harvest)			31			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>Use of 1,3-D was suspended in early 1990.

<sup>3</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>4</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 5. 1990 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D<sup>2</sup></b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>3</sup></b>	<b>Dazomet<sup>3</sup></b>	<b>Na Tetrathio carbonate<sup>4</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast		50	49			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		50	49	20		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				50		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp				15		34
Drip w/ low permeability tarp				15		
Non-field soil (structural/post-harvest)			3			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>Use of 1,3-D was suspended in early 1990.

<sup>3</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>4</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 6. 1990 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D<sup>2</sup></b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>3</sup></b>	<b>Dazomet<sup>3</sup></b>	<b>Na Tetrathio carbonate<sup>4</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast		50	3			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		50	3	20		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				50		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp				15		34
Drip w/ low permeability tarp				15		
Non-field soil (structural/post-harvest)			95			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>Use of 1,3-D was suspended in early 1990.

<sup>3</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>4</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 7. 2005 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		56.0	11.3			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed		33.0	6.3			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast	99					
Deep injection w/ low permeability tarp-broadcast			11.4			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				45		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	1			9		34
Drip w/ low permeability tarp		11.0		10		
Non-field soil (structural/post-harvest)			70.9			

<sup>1</sup> Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup> DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup> DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.



**Table A1 - 8. 2005 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	2					
Shallow injection w/ low permeability tarp-broadcast		97.0	79.5			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed			0.6			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				20		
Deep injection w/ high permeability tarp or no tarp-broadcast	97	1.0				
Deep injection w/ low permeability tarp-broadcast		1.0	16.3			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				35		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	1			14		34
Drip w/ low permeability tarp				10		
Non-field soil (structural/post-harvest)		1.0	3.7			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 9. 2005 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		88	77.1			
Shallow injection w/ high permeability tarp or no tarp-bed				6		
Shallow injection w/ low permeability tarp-bed			18.9			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	10					
Deep injection w/ low permeability tarp-broadcast			1.1			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				75		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	90	5		7		34
Drip w/ low permeability tarp		5		12		
Non-field soil (structural/post-harvest)		2	2.9			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 10. 2005 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	1					
Shallow injection w/ low permeability tarp-broadcast		67	100.0			
Shallow injection w/ high permeability tarp or no tarp-bed						
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments				25		
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	4					
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler						33
Sprinkler w/ water treatments				20		
Flood						33
Drip w/ high permeability tarp or no tarp	95			5		34
Drip w/ low permeability tarp		33		50		
Non-field soil (structural/post-harvest)						

<sup>1</sup> Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup> DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup> DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 11. 2005 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		40	60.9			
Shallow injection w/ high permeability tarp or no tarp-bed				25		
Shallow injection w/ low permeability tarp-bed		36	30.8			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	2					
Deep injection w/ low permeability tarp-broadcast			0.5			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				20		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	98			5		34
Drip w/ low permeability tarp		24		50		
Non-field soil (structural/post-harvest)			7.8			

<sup>1</sup> Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup> DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup> DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 12. 2006 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	3					
Shallow injection w/ low permeability tarp-broadcast		56.0	11.3			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed		33.0	6.3			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast	95					
Deep injection w/ low permeability tarp-broadcast			11.4			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				45		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	2			9		34
Drip w/ low permeability tarp		11.0		10		
Non-field soil (structural/post-harvest)			70.9			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 13. 2006 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	2					
Shallow injection w/ low permeability tarp-broadcast		97.0	79.5			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed			0.6			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				20		
Deep injection w/ high permeability tarp or no tarp-broadcast	97	1.0				
Deep injection w/ low permeability tarp-broadcast		1.0	16.3			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				35		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	1			14		34
Drip w/ low permeability tarp				10		
Non-field soil (structural/post-harvest)		1.0	3.7			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 14. 2006 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		88.0	77.1			
Shallow injection w/ high permeability tarp or no tarp-bed				6		
Shallow injection w/ low permeability tarp-bed			18.9			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	16					
Deep injection w/ low permeability tarp-broadcast		0.2	1.1			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				75		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	84	5.0		7		34
Drip w/ low permeability tarp		5.0		12		
Non-field soil (structural/post-harvest)		2.0	2.9			

<sup>1</sup> Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup> DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup> DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 15. 2006 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		67.0	100.0			
Shallow injection w/ high permeability tarp or no tarp-bed						
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments				25		
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	7					
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler						33
Sprinkler w/ water treatments				20		
Flood						33
Drip w/ high permeability tarp or no tarp	93			5		34
Drip w/ low permeability tarp		33.0		50		
Non-field soil (structural/post-harvest)						

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.



**Table A1 - 16. 2006 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		40.0	60.9			
Shallow injection w/ high permeability tarp or no tarp-bed				25		
Shallow injection w/ low permeability tarp-bed		36.0	30.8			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast			0.5			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				20		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	100			5		34
Drip w/ low permeability tarp		24.0		50		
Non-field soil (structural/post-harvest)			7.8			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 17. 2007 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	0.0					
Shallow injection w/ low permeability tarp-broadcast		56.0	11.3			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed		33.0	6.3			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast	99.9					
Deep injection w/ low permeability tarp-broadcast			11.4			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				45		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	0.1			9		34
Drip w/ low permeability tarp		11.0		10		
Non-field soil (structural/post-harvest)			70.9			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 18. 2007 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	0.3					
Shallow injection w/ low permeability tarp-broadcast		97.0	79.5			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed			0.6			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				20		
Deep injection w/ high permeability tarp or no tarp-broadcast	99.3	1.0				
Deep injection w/ low permeability tarp-broadcast		1.0	16.3			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				35		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	0.4			14		34
Drip w/ low permeability tarp				10		
Non-field soil (structural/post-harvest)		1.0	3.7			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 19. 2007 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast	0.4					
Shallow injection w/ low permeability tarp-broadcast		88.0	77.1			
Shallow injection w/ high permeability tarp or no tarp-bed				6		
Shallow injection w/ low permeability tarp-bed			18.9			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	0.0					
Deep injection w/ low permeability tarp-broadcast		0.2	1.1			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				75		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	99.6	5.0		7		34
Drip w/ low permeability tarp		5.0		12		
Non-field soil (structural/post-harvest)		2.0	2.9			

<sup>1</sup> Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup> DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup> DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 20. 2007 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		67.0	100.0			
Shallow injection w/ high permeability tarp or no tarp-bed						
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments				25		
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	5.0					
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler						33
Sprinkler w/ water treatments				20		
Flood						33
Drip w/ high permeability tarp or no tarp	94.9			5		34
Drip w/ low permeability tarp		33.0		50		
Non-field soil (structural/post-harvest)						

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.

<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.

<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

**Table A1 - 21. 2007 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.**

<b>Fumigation Method<sup>1</sup></b>	<b>% of Amount Applied</b>					
	<b>1,3-D</b>	<b>Chloropicrin</b>	<b>Methyl Bromide</b>	<b>Metam<sup>2</sup></b>	<b>Dazomet<sup>2</sup></b>	<b>Na Tetrathio-carbonate<sup>3</sup></b>
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		40.0	60.9			
Shallow injection w/ high permeability tarp or no tarp-bed				25		
Shallow injection w/ low permeability tarp-bed		36.0	30.8			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast			0.5			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				20		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	100.0			5		34
Drip w/ low permeability tarp		24.0		50		
Non-field soil (structural/post-harvest)			7.8			

<sup>1</sup>Fumigation methods are described in detail in the memo Bary et al., 2007.<sup>2</sup>DPR assumes 100% conversion of metam and dazomet to MITC and percentages are relative to the amount of MITC applied.<sup>3</sup>DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.